



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,446	07/11/2006	Toshiki Origuchi	3273-0225PUS1	2164
2252	7590	10/29/2010		
BIRCH STEWART KOLASCH & BIRCH				EXAMINER
PO BOX 747				SALVITTI, MICHAEL A
FALLS CHURCH, VA 22040-0747			ART UNIT	PAPER NUMBER
			1767	
			NOTIFICATION DATE	DELIVERY MODE
			10/29/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/581,446	Applicant(s) ORIGUCHI ET AL.
	Examiner MICHAEL A. SALVITTI	Art Unit 1767

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 03 May 2010.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1 and 3-19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1, 3-19 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/03/2010 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 18-19: Claims 18-19 recite bonding between the vinyl polymer chain and the linkage segment is at any one of the branch chains of the vinyl polymer chain. These added claims contain new matter. Branching is disclosed at ¶ [0083]-

[0084] of the instant PUB; however, this branching point belongs to the urethane polymer. The linkage segment is not stated to branch to the vinyl polymer. The instant specification does not support bonding between the vinyl polymer chain and the linkage segment at the branch chains.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 18-19: Claims 18-19 recite bonding between the vinyl polymer chain and the linkage segment at any one of the branch chains of the vinyl polymer chain. This limitation is indefinite for the reason that the claim language "at any one of the branch chains" does not set forth whether this linkage occurs at the point of branching, or whether the bonding occurs on a branch. The specification only provides support for branching points of the urethanes (¶ [0084] of PUB), but does not disclose chain attachment at this point even in the urethane embodiment.

The scope of claims 18 and 19 can not be determined in view of issues of new matter and indefiniteness, and examination of claims 18-19 has been precluded in the present Action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 and 3-10 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2003-238795 to *Mori et al.* with supporting evidence and definition from the instant specification.

For translational purposes an English machine translation of *Mori* obtained from AIPN/JPO is referenced; due to the length of the instant specification, the instant PG-PUB document is referenced where indicated.

Regarding claim 1: Mori teaches a vinyl-urethane copolymer comprising at least one vinyl polymer chain (*Mori* ¶ [0029]; vinyl polymer B) and at least one urethane polymer chain (*Mori* ¶ [0006]); urethane system resin A).

The urethane polymer chain A is a residue of a urethane polymer having at least one terminal silicon containing hydrolyzable group (*Mori* ¶ [0006]; "R7" in ¶ [0007]). The vinyl polymer is a residue of a polymer derived from ethylenically unsaturated monomer B and compound C (*Mori* page 12, ¶ [0029]). "(b-1)" in *Mori* has been interpreted to be compound C; b-1 compounds comprise hydrolytic silanes, which are admitted in the instant specification to be a "C" compounds (instant PUB ¶ [0182]).

The reactive silicon at the terminal end of the urethane polymer undergoes a hardening/crosslinking reaction with the vinyl polymer (*Mori ¶ [0004]*), thereby generating the silicon-oxygen linkage to bond the urethane polymer chain to the vinyl polymer chain (generated by condensation of the terminally functionalized urethane with alkoxysilanes from the vinyl polymer).

Regarding claims 3-4 and 8: *Mori* teaches the linkage segment as a silicon polymer chain (molecular weight of 500 or less; *Mori ¶ [0007]*). The R7 silicon is a hydrolyzable alkoxy-group containing silane compound "C" (*¶ [0024]*). This segment may be derived from a silane compound "D" (interpreted to be resin C in *Mori, ¶ [0060]*). And is terminally functionalized with at least one silicon containing hydrolyzable group, an alkoxy group-containing silane compound (*Mori ¶ [0060]* structures).

Regarding claims 5-7: *Mori* teaches the vinyl-urethane copolymer having at least one silicon-containing hydrolyzable group as an alkoxylated urethane (*¶ [0024]*). The alkoxysilyl group is terminal (*Mori ¶ [0006]*). *Mori* describes the urethane as being a reaction product of a compound A1-a, containing plural isocyanate-reactive groups and having no hydrophilic group (diisocyanates of *¶ [0012]*); A1-b, a compound containing at least one hydrophilic group and plural isocyanate groups (polyol/urethane prepolymer, *¶ [0008]*); and A1-d, an alkoxysilanes (*¶ [0024]*). Component A1-c, recited as a generic polyisocyanate, encompasses both A1-a and A1-b and it has been interpreted to be either component.

Regarding claim 9: *Mori* teaches the ethylenically unsaturated monomer B comprising acrylic monomer (*Mori ¶ [0035]*).

Regarding claim 10: *Mori* teaches compound C having at least one functional group comprising a silicon containing hydrolyzable group and an ethylenically unsaturated bond containing group (¶ [0051]).

Claims 1 and 3-10 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 2004-035590 to *Nomura et al.* with supporting evidence and definition from the instant specification.

For translational purposes an English machine translation of *Nomura* obtained from AIPN/JPO is referenced.

Regarding claim 1: *Nomura* teaches a vinyl-urethane copolymer comprising at least one vinyl polymer chain (*Nomura* ¶ [0032]; acrylic resin B) and at least one urethane polymer chain (*Nomura* ¶ [0007]); silanizing urethane system resin A). The urethane polymer chain A is a residue of a urethane polymer having at least one terminal silicon containing hydrolyzable group (*Nomura* ¶ [0007]; "R7" in ¶ [0008]). The vinyl polymer is a residue of a polymer derived from a condensed compound of ethylenically unsaturated monomer B and silylated compound C (*Nomura* page 12, ¶ [0039] ethylenically unsaturated/triethoxysilane monomer). The reactive silicon at the terminal end of the urethane polymer forms a bridge with vinyl polymer (*Nomura* Claim 1), thereby generating the silicon-oxygen linkage (generated in condensation of the terminally functionalized urethane with alkoxy silanes from the vinyl polymer).

Regarding claims 3-4 and 8: *Nomura* teaches the linkage segment as a silicon polymer chain (¶ [0035] and Chemical Formula 13), and contains at least one silicon

Art Unit: 1767

containing hydrolyzable group, namely an alkoxy silane terminal functionality.

Compound D is taught in ¶ [0040] and contains hydrolyzable alkoxy silyl groups.

Regarding claims 5-7: *Nomura* teaches at least one silicon-containing hydrolyzable group as an alkoxy silylated urethane (¶ [0018]). The alkoxy silyl group is terminal (*Nomura* ¶ [0007]). *Nomura* describes the urethane as being a reaction product of a compound A1-a, containing plural isocyanate-reactive groups and having no hydrophilic group (diisocyanates of ¶ [0014]); A1-b, a compound containing at least one hydrophilic group and plural isocyanate groups (polyol/urethane prepolymer; ¶ [0012]); and A1-d, an alkoxy silane (¶ [0018]). Component A1-c encompasses both A1-a and A1-b and it has been interpreted to be either component.

Regarding claim 9: *Nomura* teaches the ethylenically unsaturated monomer B comprising acrylic monomer (*Nomura* ¶ [0032]).

Regarding claim 10: *Nomura* teaches compound C having at least one functional group comprising a silicon containing hydrolyzable group and an ethylenically unsaturated bond containing group (*Nomura* structures in ¶ [0041]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-238795 to *Mori et al.* with supporting evidence and definition from the instant specification, further in view of U.S. Patent No. 5,118,752 to *Chang et al.*

For translational purposes an English machine translation of *Mori* obtained from AIPN/JPO is referenced; due to the length of the instant specification, the instant PG-PUB document is referenced where indicated.

Regarding claim 11: *Mori* teaches a method of producing a vinyl-urethane copolymer comprising at least one vinyl polymer chain (*Mori ¶ [0029]*; vinyl polymer B) and at least one urethane polymer chain (*Mori ¶ [0006]*); urethane system resin A). The reactive silicon at the terminal end of the urethane polymer undergoes a hardening/crosslinking reaction with the vinyl polymer (*Mori ¶ [0004]*), thereby generating the silicon-oxygen linkage (generated in condensation of the terminally functionalized urethane with alkoxysilanes from the vinyl polymer). The method comprises the following steps:

Step X: *Mori* teaches preparing a urethane polymer A having at least one silicon-containing hydrolyzable group (*Mori ¶ [0037]-[0042]*; and

Step Y: carrying out polymerization of the vinyl polymer (see *Mori ¶ [0067]*, specifically manufacturing method “2”) in the presence of urethane resin A. The vinyl polymer is a residue of a polymer derived from ethylenically unsaturated monomer B and compound C (*Mori page 12, ¶ [0029]*, specifically (b-1) and the formulas discloses “b-1” as containing a hydrolytic silicon group interpreted to be compound C which are admitted in the instant specification to be a “C” compounds (instant PUB ¶ [0182]) ,

reactive with an ethylenically unsaturated bond-containing group. The reactive silicon at the terminal end of the urethane polymer undergoes a hardening/crosslinking reaction with the vinyl polymer (*Mori ¶ [0004]*), thereby generating the silicon-oxygen linkage (generated in condensation of the terminally functionalized urethane with alkoxy silanes from the vinyl polymer).

With regard to Step X, *Mori* is silent in teaching the urethane polymer A in an aqueous dispersion or aqueous solution. *Chang* teaches aqueous polymerizations performed in the presence of silylated urethane polymers (*Chang* 2:54-3:25). *Mori* and *Nomura* are analogous art in that they are drawn to the same field of endeavor, namely polymerization of ethylenically unsaturated monomers in the presence of urethanes functionalized with silanes; these aqueous polymers exhibit good adhesivity (*Chang* col. 1, lines 25-33). At the time of the invention, it would have been obvious to a person having ordinary skill in the art to disperse the terminally silylated urethane of *Mori* in aqueous composition for during the polymerization of the ethylenically unsaturated monomers, with the motivation of improving the adhesivity and potentially reducing the viscosity by diluting the polmyer, both objectives being recognized by *Mori* as the primary problems being solved; *Mori ¶ [0003]*.

Regarding claim 12: Manufacturing method (2) in *Mori* (¶ [0067]) teaches out the equivalent Step Y1-c wherein the “B” and “C” equivalent components are reacted prior to polymerization in the presence of urethane resin A (see Chemical formula 35 wherein b-1 (interpreted to be equivalent to C) and ethylenically unsaturated monomer are

Art Unit: 1767

combined to form a "macro" vinyl monomer prior to polymerization in the presence of resin A).

Regarding claim 13: Manufacturing method (2) in *Mori* (¶ [0067]) teaches the equivalent process of Step Y3-c, wherein the silane compound D equivalent (silicone resin C in *Mori*) is subsequently condensed after polymerization of B in the presence of A.

Regarding claim 14: The silane compound D equivalents in *Mori* (modified silicon resin C; ¶ [0060]) have a silicon containing hydrolyzable group (terminal trialkoxysilyl) reactive with an ethylenically unsaturated group, and at least one functional group with a silane compound free from a functional group reactive with an ethylenically unsaturated group (non-terminal silanes); see e.g. figures 37-39, page 23 of *Mori*.

Regarding claim 15: Manufacturing method 2 in *Mori* (¶ [0067]) teaches polymerizing vinyl polymer B in the presence of urethane resin A. Since the constituents of vinyl polymer B is initially in the form of monomers, they are effectively acting as a solvent to the urethane resin A prior to polymerization.

Mori is silent regarding dispersion of urethane polymer A and ethylenically unsaturated monomer B in water to form aqueous dispersion or aqueous solution.

Chang teaches aqueous polymerizations performed in the presence of silylated urethane polymers (*Chang* 2:54-3:25). *Mori* and *Nomura* are analogous art in that they are drawn to the same field of endeavor, namely polymerization of ethylenically unsaturated monomers in the presence of urethanes functionalized with silanes; these aqueous polymers exhibit good adhesivity (*Chang* col. 1, lines 25-33). At the time of the

invention, it would have been obvious to a person having ordinary skill in the art to disperse the terminally silylated urethane of *Mori* in aqueous composition for during the polymerization of the ethylenically unsaturated monomers, with the motivation of improving the adhesivity and potentially reducing the viscosity by diuting the polmyer, both objectives being recognized by *Mori* as the primary problems being solved; *Mori* ¶ [0003].

Regarding claim 16: *Mori* describes the urethane as being a reaction product of a compound A1-a, containing plural isocyanate-reactive groups and having no hydrophilic group (diisocyanates of ¶ [0012]); A1-b, a compound containing at least one hydrophilic group and plural isocyanate groups (polyol/urethane prepolymer); and A1-d, an alkoxy silane.

Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-238795 to *Mori et al.* with supporting evidence and definition from the instant specification, as applied to claim 1 above, in view of U.S. Patent No. 5,118,752 to *Chang et al.*

For translational purposes an English machine translation of *Mori* obtained from AIPN/JPO is referenced.

Regarding claim 17: *Mori* teaches the composition of claim 1, as set forth above. *Mori* is silent regarding the vinyl-urethane copolymer as an aqueous dispersion. *Chang* teaches that aqueous dispersions of vinyl-urethanes functionalized with silanes act can act as latex coatings (*Chang Background, Examples*). At the time of the

Art Unit: 1767

invention, it would have been obvious to a person having ordinary skill in the art to disperse the composition of *Mori* in water, with the motivation of obtaining a latex coating exhibiting numerous excellent physical properties (*Chang* col. 1, lines 17-33).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 3-10 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 and 6-8 of copending Application No. 12/306,887 to *Shimizu et al.* in view of JP 2003-238795 to *Mori et al.* For translational purposes an English machine translation of *Mori* obtained from AIPN/JPO is referenced.

Regarding claims 1 and 5-7 and 9: *Shimizu* recites a vinyl (acrylic; *Shimizu* claim 1)-urethane polymer comprising at least one vinyl chain and one urethane chain (*Shimizu* claim 1). The vinyl and urethane polymers are combined through the intermediary of a linkage segment having a silicon-oxygen bond (*Shimizu* claim 1). The urethane chain is a residue of a urethane polymer having at least one silicon-containing hydrolyzable group (*Shimizu* claim 2) and the vinyl polymer chain is a residue of a polymer derived from an ethylenically unsaturated monomer (an acrylic monomer) and a compound containing at least one functional group reactive with a silicon-containing hydrolyzable group (hydrolyzable silicon and/or mercapto; *Shimizu* claim 1). The bonding between the urethane polymer chain and the linkage segment is at the terminal of the urethane polymer chain (*Shimizu* claim 3).

Shimizu is silent in reciting that the silicon group is positioned at the terminus of the urethane polymer, thereby linking the polymers at the terminal of the urethane polymer chain. *Mori* teaches terminal silylated urethanes thereby achieving a linkage at the end of the urethane chain (*Mori* claim 1). *Mori* teaches at least one silicon-containing hydrolyzable group as an alkoxy silated urethane (¶ [0024]). The alkoxy sil group is terminal (*Mori* ¶ [0006]). *Mori* describes the urethane as being a reaction product of a compound A1-a, containing plural isocyanate-reactive groups and having no hydrophilic group (diisocyanates of ¶ [0012]); A1-b, a compound containing at least one hydrophilic group and plural isocyanate groups (polyol/urethane prepolymer); and A1-d, an alkoxy silane. Component A1-c encompasses both A1-a and A1-b and it has been interpreted to be either component. At the time of the invention, it would have

been obvious to a person having ordinary skill in the art to substitute the composition taught by *Mori* into the recited composition of *Shimizu*, with the motivation of ensuring good hardening and elongation properties (*Mori* ¶ [0002]).

Regarding claim 3: *Shimizu* recites the linkage segment as a silicon polymer chain (*Shimizu* claim 6).

Regarding claims 4, 8 and 10: *Shimizu* recites the silicon polymer chain as being derived from a silicon containing hydrolyzable group of the urethane polymer, a functional group reactive with a silicon containing group (ethylenically unsaturated bond-containing group) and a hydrolyzable silicon containing group (*Shimizu* claim 7), specifically an alkoxy-containing silane compound (*Shimizu* claim 8).

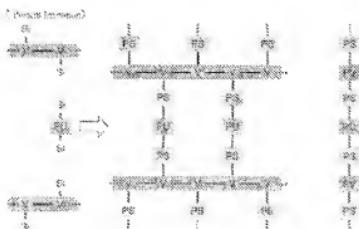
This is a provisional obviousness-type double patenting rejection.

Response to Arguments

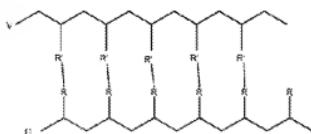
Applicant's arguments with respect to the rejection of all previously presented claims in the Final Action mailed December 1st, 2009 have been considered but are moot in view of the new ground(s) of rejection.

Amendment to the presently presented claims has overcome the combination of *Bontinck* (USPN 5,320,769) in view of *Joffre* (USPN 5,840,880).

As noted by applicant in the Response received August 17th, 2009, the presently claimed polymer should have a structure approximating:



The combination of *Bontinck* and *Joffre* was noted by the Examiner to have a structure approximating:



The previous rejections to *Bontinck* in view of *Joffre* have been withdrawn, since the presently claimed terminally silylated urethanes result in a different structure.

Prior Art Made of Record

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure has been recorded on the PTO-892 form.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL A. SALVITTI whose telephone number is

(571)270-7341. The examiner can normally be reached on Monday-Thursday 8AM-7PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1767

/M. A. S./
Examiner, Art Unit 1767